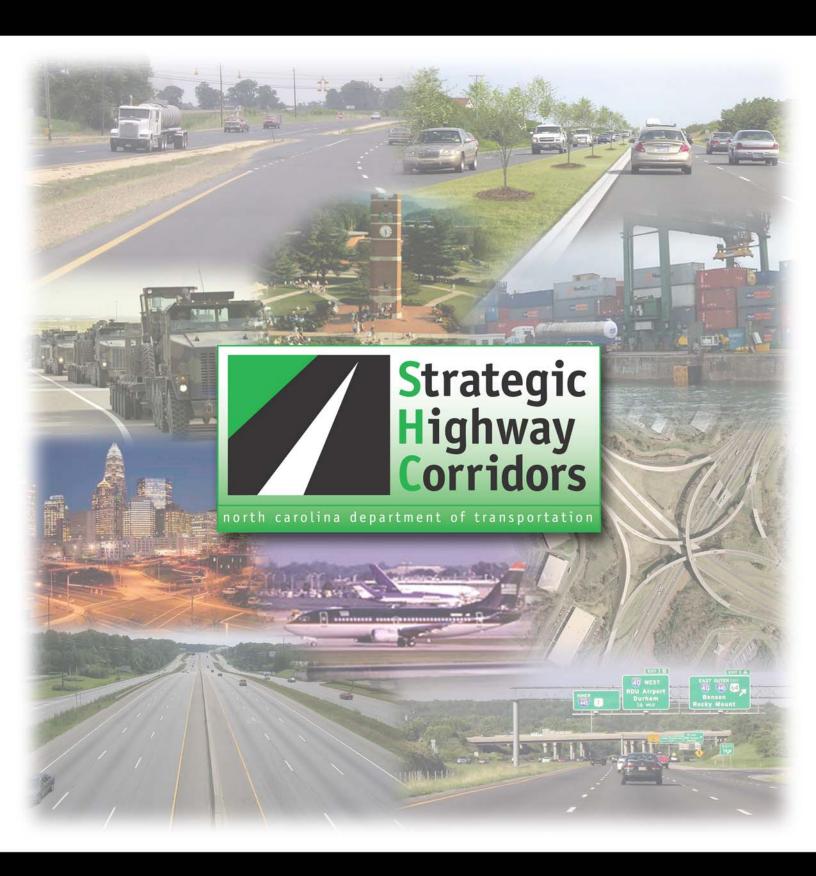
CONCEPT DEVELOPMENT REPORT





THE STRATEGIC HIGHWAY CORRIDORS CONCEPT DEVELOPMENT REPORT

Prepared by:



North Carolina Department of Transportation Transportation Planning Branch

October 2005



This page intentionally left blank.



List of Preparers

Name Title	Contribution	Email
David S. Wasserman, P.E. Systems Planning Engineer	Co-Author	dswasserman@dot.state.nc.us
Alpesh G. Patel Systems Planning Engineer	Co-Author	agpatel@dot.state.nc.us
Jamal Alavi, P.E. Systems Planning Unit Group Supervisor	Document Content Advisor	jalavi@dot.state.nc.us
Dan Thomas, P.E. Technical Services Unit Head	Document Content Advisor	danthomas@dot.state.nc.us
Laura L. Cove, P.E. Congestion Management & Signing Unit Head	Document Content Advisor	lcove@dot.state.nc.us
Mike Bruff, P.E. Transportation Planning Branch Manager	Document Content Advisor	mbruff@dot.state.nc.us

For More Information Contact:

North Carolina Department of Transportation

Transportation Planning Branch Systems Planning Unit Attn: David S. Wasserman, P.E. 1554 Mail Service Center Raleigh, NC 27699-1554 (919) 715-5482 ext. 380

www.ncdot.org/doh/preconstruct/tpb/shc



Acknowledgements

The authors of this document wish to thank the following people for their contributions in developing the Strategic Highway Corridors concept and/or this report:

Name	Organization
Ted Alman, P.E., AICP	Division of Aviation
Chris Beacham	North Carolina Department of Commerce
Lisa Crawley	Public Information Office
Susan Coward	Intergovernmental Affairs and Budget Coordination
Marion Cowell	Board of Transportation
Hardee Cox	Geographic Information Systems Unit
Craig Deal	North Carolina Department of Environment and Natural Resources
Janet D'Ignazio	Center for Transportation and the Environment
Jim Dunlop, P.E.	Traffic Engineering and Safety Systems Branch
Nancy Dunn	Board of Transportation
Billy Helton	University of North Carolina
Pat Ivey, P.E.	Highway Division 9
Neil Lassiter, P.E.	Highway Division 2
Cam McRae	Board of Transportation
Ray McIntyre, P.E.	Program Development Branch
Warren Miller	AH HA! Consulting
Cris Mowrey	North Carolina State Ports Authority
Blake Norwood, P.E.	Transportation Planning Branch
Chris Parker	Roadway Design Unit
Roy Shelton	Project Development and Environmental Analysis Branch
Steve Varnedoe, P.E.	Highway Operations
Ron Watson, P.E.	Highway Division 14
Julie Whichard	Public Information Office
Marcus Wilner	Federal Highway Administration



Executive Summary

North Carolina has changed dramatically over the last 20 years and will continue to do so well into the 21st century. Change in travel patterns, increase in population and vehicle miles traveled, and burgeoning domestic and international trade are all putting additional strains on North Carolina's transportation system. In an renewed effort to enhance and preserve the backbone of the state's highway system, the Department of Transportation (NCDOT) in collaboration with the Department of Commerce (NCDOC) and Department of Environment and Natural Resources (NCDENR) created the Strategic Highway Corridors (SHC) concept. The SHC concept represents a timely initiative to protect and maximize the mobility and connectivity on a core set of highway corridors throughout North Carolina, while promoting environmental stewardship through maximizing the use of existing facilities to the extent possible, and fostering economic prosperity through the quick and efficient movement of people and goods. Each Corridor represents an opportunity for NCDOT, partnering agencies, and other stakeholders to consider a long-term vision, consistency in decision-making, land use partnerships, and overarching design and operational changes.

The primary purpose of the SHC concept is to provide a network of high-speed, safe, reliable highways throughout North Carolina. The primary goal to support this purpose is to create a greater consensus towards the development of a genuine vision for each Corridor - specifically towards the identification of a desired facility type (Freeway, Expressway, Boulevard, or Thoroughfare) for each Corridor. Buy-in towards this vision and desired facility type would affect decision-making throughout the project improvement process, i.e., affecting funding decisions, project planning decisions, design decisions, access and operational decisions (driveway permit approvals and traffic signal installations), and local land use decisions.

This concept has undergone a number of changes over the course of the past three years. Initially, a set of governing criteria was developed to guide the corridor selection process. These criteria focused on mobility, connectivity to activity centers, connectivity to interstates, interstate relief routes, major hurricane evacuation routes, and corridors that are part of a national or statewide highway system. Activity centers include urban areas with a population of 20,000 or greater, state seaports, major airports, major intermodal terminals, major military installations, University of North Carolina system campuses, trauma centers, and major tourist attractions. Input from public forums and from members of the North Carolina Board of Transportation (BOT) and NCDOT Highway Operations staff have also been instrumental in further refining and improving this concept. The result is a long-range highway planning vision for the state, illustrated by a Vision Plan with the proposed facility types and documented as a set of recommended Corridors. The 5400 miles of designated Strategic Highway Corridors, which include existing and proposed interstates, account for only 7% of the state's highway system, but carry 45% of the traffic.

Implementation efforts of the concept focus on six different areas:

- Education. Educating all stakeholders on the concept on a continual basis to ensure those involved are aware of the latest activities and policies.
- Long-Range Planning. Individual Comprehensive Transportation Plans will incorporate the long-term vision of each Corridor. Additionally, a series of corridor studies may be undertaken to define needs, issues, and unique challenges of each Corridor. These studies provide all stakeholders an opportunity to be involved at the beginning of the planning process.
- **Project Planning and Design.** Projects along Corridors will be developed in a manner to achieve the long-term vision and goals of the initiative.

Executive Summary ES-1



- Corridor Access. All driveway permits and traffic signal requests along the Corridors will be carefully examined for consistency with the long-term vision for the corridor. Driveway consolidation and sharing will be highly encouraged, and alternative solutions to traffic signals will be pursued.
- Land Use. Consistent and compatible land use decisions are needed to support the goals of the initiative. Mechanisms will be developed to assist local jurisdictions in helping to protect mobility and safety along the Corridors.
- Corridor Protection. Managing development along the Corridors (both for existing and new location facilities) is essential for achieving the long-term vision for each facility. Tools, techniques, and strategies will be identified for protecting the Corridors, such as the use of access management.

The SHC concept was adopted by the BOT on September 2, 2004, as a part of North Carolina's Long-Range, Multimodal Statewide Transportation Plan. Following adoption, a formal policy statement on the initiative was endorsed by NCDOT, NCDOC, NCDENR, and the Governor's Office.

Continued documentation of all activities, tasks, decisions, and other items of notable importance, is essential during the evolvement of this initiative for future decision-makers, engineers, planners, and other stakeholders. In addition, NCDOT has created a comprehensive and dynamic website for all information related to the SHC initiative located at http://www.ncdot.org/doh/preconstruct/tpb/shc.

ES-2 Executive Summary



Table of Contents

CHAI	PTER 1 - INTRODUCTION AND BACKGROUND	1
1.1	WHAT IS THE STATE OF TRANSPORTATION IN NORTH CAROLINA?	1
1.2	How is North Carolina Changing?	3
1.3	How is North Carolina Addressing the Environment?	8
CHAI	PTER 2 - CONCEPT DEVELOPMENT	11
2.1	WHY WAS THE CONCEPT INITIATED?	11
	WHAT ARE THE THEMES OF THE CONCEPT?	
2.3	WHAT ARE THE PURPOSE AND GOALS OF THE CONCEPT?	12
	How were the Corridors Selected?	
	WHAT ARE ACTIVITY CENTERS?	
	HOW WAS THE PUBLIC INVOLVED IN THE DEVELOPMENT OF THIS CONCEPT?	
2.7	What are the Strategic Highway Corridors?	25
CHAI	PTER 3 - CORRIDOR VISION	29
3.1	WHAT IS THE VISION FOR EACH OF THE CORRIDORS?	29
CHAI	PTER 4 - IMPLEMENTATION	59
4.1	HOW WILL STAKEHOLDERS LEARN ABOUT THIS CONCEPT?	59
4.2	HOW WILL THIS CONCEPT BE INCORPORATED INTO THE LONG-RANGE PLANNING PROCESS?	60
	HOW WILL THIS CONCEPT INFLUENCE DECISIONS IN THE PROJECT PLANNING AND DESIGN PROCESS?	
	HOW WILL THIS CONCEPT AFFECT ACCESS TO THE CORRIDORS?	
	WHAT EFFORTS WILL BE MADE TO INTEGRATE THE CONCEPT WITH LAND USE PLANNING?	
4.6	How will the Corridors be Protected?	70
CHAI	PTER 5 - NEXT STEPS	73
REFE	CRENCES	77
GLOS	SSARY OF TERMS	79
APPE	NDIX A - NCDOT ENVIRONMENTAL STEWARDSHIP POLICY	93
APPE	NDIX B - REGIONAL FORUMS AND COMMENTS	95
APPE	ENDIX C - NCDOT FACILITY TYPES AND CONTROL OF ACCESS DEFINITIONS	117
APPE	NDIX D - STRATEGIC HIGHWAY CORRIDORS BROCHURE	135

Table of Contents i



List of Exhibits

Exhibit 1: Vehicle Miles Traveled, Population, and NCDOT's Budget (1970-2000)	3
EXHIBIT 2: PROJECTED POPULATION GROWTH BY COUNTY (2000-2010)	4
EXHIBIT 3: EXISTING AND PROJECTED POPULATION GROWTH (1970-2030)	4
Exhibit 4: 1998 Domestic Truck Volumes	6
EXHIBIT 5: 2020 FORECASTED DOMESTIC TRUCK VOLUMES	6
EXHIBIT 6: LATIN AMERICA TRADE AND TRANSPORTATION STUDY HIGHWAY NETWORK	8
EXHIBIT 7: BALTIMORE-WASHINGTON PARKWAY	10
EXHIBIT 8: VARIATIONS IN ROADWAY CROSS-SECTIONS ALONG US 64 IN CENTRAL NORTH CAROLINA	11
EXHIBIT 9: NATIONAL HIGHWAY SYSTEM IN NORTH CAROLINA	15
Exhibit 10: North Carolina Intrastate System	15
EXHIBIT 11: APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM	16
EXHIBIT 12: METROPOLITAN PLANNING ORGANIZATIONS IN NORTH CAROLINA	18
EXHIBIT 13: 2004 PASSENGER AND CARGO DATA FOR THE MAJOR COMMERCIAL AIRPORTS	19
EXHIBIT 14: MAJOR AIRPORTS, SEAPORTS, AND INLAND TERMINALS IN NORTH CAROLINA	20
EXHIBIT 15: MAJOR MILITARY INSTALLATIONS IN NORTH CAROLINA	21
EXHIBIT 16: UNIVERSITY OF NORTH CAROLINA SYSTEM CAMPUSES	21
EXHIBIT 17: UNIVERSITY OF NORTH CAROLINA SYSTEM STUDENT AND EMPLOYEE DATA (FALL 2004)	22
Exhibit 18: Trauma Centers in North Carolina	23
Exhibit 19: The North Carolina Strategic Highway Corridors	27
EXHIBIT 20: STRATEGIC HIGHWAY CORRIDORS TOTAL MILES BY PROPOSED FACILITY TYPE (SEPT. 2004)	30
EXHIBIT 21: EXAMPLES OF HIGH-SPEED/FREE-FLOW STYLE INTERCHANGES (IN NORTH CAROLINA)	31
Exhibit 22: An Example of Retrofitting a Thoroughfare into a Boulevard	31
EXHIBIT 23: INCREASED CAPACITY BENEFITS OF ACCESS MANAGEMENT	32
Exhibit 24: Strategic Highway Corridors Vision Plan	33
EXHIBIT 25: STRATEGIC HIGHWAY CORRIDORS VISION PLAN-FRENCH BROAD RIVER AREA	35
Exhibit 26: Strategic Highway Corridors Vision Plan-Metrolina Area	37
Exhibit 27: Strategic Highway Corridors Vision Plan-Triad Area	39
Exhibit 28: Strategic Highway Corridors Vision Plan-Triangle Area	41
Exhibit 29: Strategic Highway Corridors Vision Plan-Fayetteville Area	43
EXHIBIT 30: STRATEGIC HIGHWAY CORRIDORS VISION PLAN-SOUTHEASTERN NORTH CAROLINA	45
Exhibit 31: Strategic Highway Corridors List	47
Exhibit 32: Strategic Highway Corridors Website	74
EXHIBIT 33: STRATEGIC HIGHWAY CORRIDORS TRI-AGENCY POLICY STATEMENT	75

ii List of Exhibits



List of Acronyms

ADHS Appalachian Development Highway System

ADT Average Daily Traffic

BOT (North Carolina) Board of Transportation CTP Comprehensive Transportation Plan

DOT Department of Transportation EIS **Environmental Impact Statement FAA** Federal Aviation Administration **FHWA** Federal Highway Administration **GIS** Geographic Information System ICI **Indirect and Cumulative Impacts MPO** Metropolitan Planning Organization **NAFTA** North American Free Trade Agreement

NCDCR North Carolina Department of Cultural Resources

NCDENR North Carolina Department of Environment and Natural Resources

NCDOC North Carolina Department of Commerce NCDOT North Carolina Department of Transportation

NCSPA North Carolina State Ports Authority

NCWRC North Carolina Wildlife Resource Commission NEPA National Environmental Policy Act (of 1969)

NHS National Highway System

NOAA National Oceanic and Atmospheric Administration

ROD Record of Decision

RPO Rural Planning Organization SHC Strategic Highway Corridors

STP North Carolina's Long-Range Multimodal Statewide Transportation Plan

TIP Transportation Improvement Program
USACE United States Army Corps of Engineers
USDOT United States Department of Transportation
USFWS United States Fish and Wildlife Service

VMT Vehicle Miles Traveled

List of Acronyms iii



This page intentionally left blank.

iv List of Acronyms